

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A communication system including a first communication terminal, a second communication terminal, and a communication control server, the communication control server notifying destination information for specifying an address of the second—first communication terminal on a network in response to a request, the first communication terminal requesting the communication control server to register one or more communication terminals that are permitted to connect to the first communication terminal as connection-permitted communication terminals, and the first—second communication terminal transmitting a request message to the communication control server to request the destination information of the first communication terminal, and receiving the destination information from the communication control server if the second communication terminal is permitted to connect to the first communication terminal,

the communication control server comprising:

a permitted-terminal table storage unit operable to store a permitted-terminal table that shows, for each communication terminal, a correlation between the second—corresponding communication terminal and one or more connection-permitted communication terminals—that are permitted to connect to the second communication terminal, and that includes at least the information registered by the corresponding communication terminal;

a request message reception unit operable to receive the request message;

a terminal determination unit operable to determine, based on the permitted-terminal table, whether or not the first—second communication terminal, —that—which transmitted the received request message, is a connection-permitted communication terminal of the first communication terminal; and

a notification control unit operable to notify the first—second communication terminal of the destination information of the first communication terminal, only when the first—second communication terminal has been determined to be a connection-permitted communication terminal of the first communication terminal.

2. (Currently Amended) The communication system of Claim 1, wherein

the notification control unit includes:

an authentication information creation sub-unit operable to, only when the ~~first~~ second communication terminal has been determined to be a connection-permitted terminal of the first communication terminal, to create authentication information for the ~~second~~ first communication terminal to authenticate the ~~first~~ second communication terminal,

the notification control unit further notifies the authentication information to the first communication terminal and the second communication terminal,

the ~~first~~ second communication terminal transmits the notified authentication information to the ~~second~~ first communication terminal when making a connection request to the ~~second~~ first communication terminal, and

the ~~second~~ first communication terminal comprises:

a reception unit operable to receive the authentication information from the ~~first~~ second communication terminal;

a determination unit operable to determine whether or not the received authentication information and the notified authentication information match; and

a connection control unit operable to permit a connection from the ~~first~~ second communication terminal, only when the received authentication information and the notified authentication information match.

3. (Original) The communication system of Claim 1, wherein

the notification control unit includes:

an encrypt key creation unit operable to create an encrypt key for encryption and decryption of information transmitted between the first communication terminal and the second communication terminal, and

the notification control unit further notifies the encrypt key to the first communication terminal and the second communication terminal.

4. (Currently Amended) The communication system of Claim 1, wherein

the notification control unit further, before notifying the ~~first~~ second communication

terminal of the destination information of the ~~second-first~~ communication terminal, transmits a query message to the ~~second-first~~ communication terminal, the query message querying as to whether or not the ~~second-first~~ communication terminal is able to accept a connection from the ~~first-second~~ communication terminal,

the ~~second-first~~ communication terminal comprises:

a reception unit operable to receive the query message; and

a connection acceptability notification unit operable to determine, according to a load state upon receiving the query message, whether or not the connection from the ~~first-second~~ communication terminal is able to be accepted, and notify the communication control server of an acceptability notification message that shows a result of the determination,

the notification control unit includes:

a connection acceptability determination sub-unit operable to determine, based on the notified acceptability notification message, whether or not the ~~second-first~~ communication terminal is in a state of being able to accept the connection from the ~~first-second~~ communication terminal, and

when the ~~second-first~~ communication terminal is in a state of being able to accept the connection, the notification control unit notifies the ~~first-second~~ communication terminal of the destination information.

5. (Currently Amended) The communication system of Claim 4, wherein

when the ~~first-second~~ communication terminal is determined not to be a connection-permitted terminal of the first communication terminal, the notification control unit notifies the ~~first-second~~ communication terminal of a notification message showing that the ~~first-second~~ communication terminal is not permitted to connect to the ~~second-first~~ communication terminal, and

when the ~~second-first~~ communication terminal is in a state of being unable to accept the connection from the ~~first-second~~ communication terminal, the notification control unit notifies the ~~first-second~~ communication terminal that the ~~second-first~~ communication terminal is unable to accept the connection.

6. (Currently Amended) A communication terminal that is connected to a communication control server over a network, said communication terminal comprising:

a permitted-communication terminal registration request unit operable to make a request, to the communication control server, to register ~~one or more other~~ communication terminals that are permitted to connect to ~~the~~ said communication terminal;

an authentication information reception unit operable to, when a second communication terminal, which ~~that~~ has requested destination information for specifying an address of ~~the~~ said communication terminal on the network, is any one of the communication terminals that are permitted to connect to ~~the~~ said communication terminal, to receive authentication information for authenticating the second communication terminal ~~that requested the destination information~~;

an identification information reception unit operable to receive, from the second communication terminal ~~that requested the destination information~~, a connection acceptance request and identification information that identifies the second communication terminal ~~that requested the destination information~~;

a determination unit operable to determine whether or not the authentication information and the identification information match; and

a connection control unit operable to permit a connection based on the connection acceptance request from the second terminal ~~that requested the destination information~~, only when the authentication information and the identification information match.

7. (Currently Amended) The communication terminal of Claim 6, wherein

the identification information reception unit further, before the connection acceptance request is transmitted, receives a query message from the communication control unit, the query message querying whether or not a connection from the second communication terminal, which ~~that~~ requested the destination information is able to be accepted, and

the connection control unit determines whether or not the connection from the ~~first~~ second communication terminal is able to be accepted according to a load state upon receiving the query message, and notifies the communication control server of a result of the determination.

8. (Currently Amended) The communication terminal of Claim 7, wherein

the identification information reception unit, when ~~the said~~ communication terminal is in a state of being unable to accept the connection from the second communication terminal ~~that requested the destination information~~, receives a transfer ask notification message from the communication control server, the transfer ask notification message notifying that a communication data transfer ask has been made by the second communication terminal ~~that requested the destination information~~, and

~~the said~~ communication terminal further comprises:

a communication data acquirability determination unit operable to determine, according to a load state, whether or not ~~the said~~ communication terminal has come to be in a state of being able to acquire the communication data;

a transfer request message transmission unit operable ~~to~~, when ~~the said~~ communication terminal has come into a state of being able to acquire the communication data after the transfer ask notification message has been received, to transmit a transfer request message that requests transfer of the communication data; and

an acquisition unit operable to acquire the communication data transmitted from the communication control server in response to the transfer request message.

9. (Currently Amended) The communication terminal of Claim 6, further comprising:

a storage unit operable to store a plurality of types of communication data potentially transmitted to a callee communication terminal, each type of communication data being stored in correspondence with a respective data attribute thereof;

a transmission unit operable to transmit a request message to the communication control server, the request message requesting destination information for specifying the address of a callee communication terminal on the network;

an acquisition unit operable to obtain the destination information notified by the server, only when ~~the said~~ communication terminal is permitted to connect to the callee terminal;

a connection establishment unit operable to establish a connection with the callee communication terminal based on the acquired destination information;

a designation reception unit operable to receive a designation of communication data to be transmitted;

a data attribute determination unit operable to determine whether or not the designated communication data has a specific data attribute;

a transfer ask unit operable ~~to~~, when the designated communication data has the specific data attribute, to ask the communication control server to transfer the designated communication data to the callee communication terminal; and

a transmission control unit operable to control transmission such that (i) when the designated communication data has the specific data attribute, the designated communication data is transmitted to the communication control server, and (ii) when the designated communication data does not have the specific data attribute, the designated communication data is transmitted directly to the callee terminal.

10. (Currently Amended) The communication terminal of Claim 9, wherein the transmission control unit includes:

an extraction sub-unit operable ~~to~~, when the designated communication data is MPEG-encoded video data, to extract an I picture from the video data; and

an encryption sub-unit operable to encrypt the extracted I picture, the transfer ask unit asks that the encrypted I picture be transferred to the callee communication terminal, and

the transmission control unit transmits the encrypted I picture to the communication control server, and transmits remaining video data excluding the I picture directly to the connected callee communication terminal.

11. (Original) The communication terminal of Claim 9, wherein

the data attributes show whether or not the communication data is secret,

the transfer ask unit, when the data attribute of the designated communication data shows that the designated communication data is secret, asks the communication control server to transfer the designated data to the callee communication terminal, and

the communication control unit, when the data attribute of the designated

communication data shows that the designated communication data is secret, encrypts the designated communication data, and transmits the encrypted designated communication data to the communication control server.

12. (Original) The communication terminal of Claim 6, wherein the address is an IP address.

13. (Original) The communication terminal of Claim 6, wherein the address is composed of an IP address and a port number.

14. (Original) The communication terminal of Claim 6, wherein the address changes from time to time.

15. (Currently Amended) A communication control server that notifies destination information for specifying an address of a communication terminal, comprising:

a permitted-terminal table storage unit operable to store a permitted-terminal table that shows, for each communication terminal, a correlation between the corresponding communication terminal and one or more connection-permitted communication terminals that are permitted to connect to the corresponding communication terminal, according to information received from the communication terminals;

a request message reception unit operable to receive a request message from a ~~request-source-first~~ communication terminal, the request message requesting the destination information of a second communication terminal;

a terminal determination unit operable to determine, based on the permitted terminal table, whether or not the ~~request-source-first~~ communication terminal is a connection-permitted communication terminal that is permitted to connect to the second communication terminal; and

a notification control unit operable to notify the ~~request-source-first~~ communication terminal of the destination information of the second communication terminal, only when the request-source-first communication terminal is determined to be a connection-permitted communication terminal that is permitted to connect to the second communication terminal,

wherein the permitted-terminal table includes at least information registered by the corresponding communication terminal.

16. (Currently Amended) A connection control computer program used in a communication terminal ~~that is connected to a communication control server over a network to perform a method comprising;~~ the connection control program comprising:

a permitted-communication terminal registration request step of making a request, to the communication control server, to register ~~one or more other~~ communication terminals that are permitted to connect to the first communication terminal;

an authentication information reception step of, when a second communication terminal, ~~which that~~ has requested destination information for specifying an address of the first communication terminal on the network, is any one of the communication terminals that are permitted to connect to the first communication terminal, receiving authentication information for authenticating the second communication terminal ~~that requested the destination information;~~

an identification information reception step of receiving, from the second communication terminal ~~that requested the destination information,~~ a connection acceptance request and identification information that identifies the second communication terminal ~~that requested the destination information;~~

a determination step of determining whether or not the authentication information and the identification information match; and

a connection control step of permitting a connection based on the connection acceptance request from the second communication terminal ~~that requested the destination information,~~ only when the authentication information and the identification information match.

17. (Currently Amended) A computer-readable recording medium on which is recorded a connection control computer program ~~used in a~~ for causing a first communication terminal ~~that is~~ connected to a communication control server over a network, ~~the connection control program comprising;~~ to perform at least:

a permitted-communication terminal registration request step of making a request, to the communication control server, to register ~~one or more other~~ communication terminals that are

permitted to connect to the first communication terminal;

an authentication information reception step of, when a second communication terminal, which ~~that~~ has requested destination information for specifying an address of the first communication terminal on the network, is any one of the communication terminals that are permitted to connect to the first communication terminal, receiving authentication information for authenticating the second communication terminal ~~that requested the destination information~~;

an identification information reception step of receiving, from the second communication terminal ~~that requested the destination information~~, a connection acceptance request and identification information that identifies the second communication terminal ~~that requested the destination information~~;

a determination step of determining whether or not the authentication information and the identification information match; and

a connection control step of permitting a connection based on the connection acceptance request from the second communication terminal ~~that requested the destination information~~, only when the authentication information and the identification information match.

18. (Currently Amended) A connection control method used in a first communication terminal ~~that is connected~~ to a communication control server over a network, the connection control method comprising:

a permitted-communication terminal registration request step of making a request, to the communication control server, to register ~~one or more other~~ other communication terminals that are permitted to connect to the first communication terminal;

an authentication information reception step of, when a second communication terminal, which ~~that~~ has requested destination information for specifying an address of the first communication terminal on the network, is any one of the communication terminals that are permitted to connect to the first communication terminal, receiving authentication information for authenticating the second communication terminal ~~that requested the destination information~~;

an identification information reception step of receiving, from the second communication terminal ~~that requested the destination information~~, a connection acceptance request and identification information that identifies the second communication terminal ~~that~~

~~requested the destination information;~~

a determination step of determining whether or not the authentication information and the identification information match; and

a connection control step of permitting a connection based on the connection acceptance request from the second communication terminal ~~that requested the destination information~~, only when the authentication information and the identification information match.